SAFETY DATA SHEET

ROWE SCIENTIFIC QUANTUM CLEAN

Infosafe No.: LTTJA
ISSUED Date : 11/03/2021
ISSUED by: ROWE SCIENTIFIC

1. Identification

GHS Product Identifier
ROWE SCIENTIFIC QUANTUM CLEAN

Product Code
CQ1000

Company name
ROWE SCIENTIFIC

Address
11 Challenge Boulevard Wangara
WA 6065 AUSTRALIA

Telephone/Fax Number
Tel: +61 8 9302 1911
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Emergency phone number
+61 8 9302 1911 (24 Hrs)

E-mail Address
rowewa@rowe.com.au

Recommended use of the chemical and restrictions on use
Phosphate free liquid detergent for cleaning laboratory glassware.

Other Names

Name	Product Code
ROWE SCIENTIFIC QUANTUM CLEAN	CQ1050
ROWE SCIENTIFIC QUANTUM CLEAN	CQ1100
ROWE SCIENTIFIC QUANTUM CLEAN	CQ1110

Additional Information
Other means of identification: Not Available

2. Hazard Identification

GHS classification of the substance/mixture
Eye Damage/Irritation: Category 2A

Signal Word (s)
WARNING

Hazard Statement (s)
H319 Causes serious eye irritation.

Precautionary statement – General
Not Applicable

Pictogram (s)
Exclamation mark

Precautionary statement – Prevention
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statement – Response
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 If eye irritation persists: Get medical advice/attention.

Precautionary statement – Storage
Not Applicable

Precautionary statement – Disposal
Not Applicable

Other Information
Classification of the substance or mixture:
HAZARDOUS CHEMICAL. NON-DANGEROUS GOODS. According to the WHS Regulations and the ADG Code.

Legend:1. Classified by; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI

3. Composition/information on ingredients

Ingredients

Name	CAS	Proportion
Sodium metasilicate	1344-09-8	1-4 %weight
Water	7732-18-5	>60 %weight
ethylene glycol monobutyl ether	111-76-2	1-9 %weight
Isopropanol	67-63-0	1-9 %weight
Sodium carbonate	497-19-8	1-9 %weight
Alcohols C12-15 Ethoxylated	68131-39-5	1-9 %weight

Other Information
Substances:
See section below for composition of Mixtures

4. First-aid measures

Inhalation
If fumes, aerosols or combustion products are inhaled remove from contaminated area.
Other measures are usually unnecessary.

Ingestion
If swallowed do NOT induce vomiting.
If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
Observe the patient carefully.
Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.
Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.
Seek medical advice.

Skin
If skin contact occurs:

Immediately remove all contaminated clothing, including footwear.
Flush skin and hair with running water (and soap if available).
Seek medical attention in event of irritation.

Eye contact
If this product comes in contact with the eyes:
Wash out immediately with fresh running water.
Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
Seek medical attention without delay; if pain persists or recurs seek medical attention.
Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

Indication of immediate medical attention and special treatment needed if necessary
Treat symptomatically.

5. Fire-fighting measures

Suitable Extinguishing Media
The product contains a substantial proportion of water, therefore there are no restrictions on the type of extinguishing media which may be used. Choice of extinguishing media should take into account surrounding areas.
Though the material is non-combustible, evaporation of water from the mixture, caused by the heat of nearby fire, may produce floating layers of combustible substances.
In such an event consider:
Foam.
Dry chemical powder.
Carbon dioxide.

Specific Methods
Alert Fire Brigade and tell them location and nature of hazard.
Wear breathing apparatus plus protective gloves in the event of a fire.
Prevent, by any means available, spillage from entering drains or water courses.
Use fire fighting procedures suitable for surrounding area.
DO NOT approach containers suspected to be hot.
Cool fire exposed containers with water spray from a protected location.
If safe to do so, remove containers from path of fire.
Equipment should be thoroughly decontaminated after use.

Specific Hazards Arising From The Chemical
Fire Incompatibility: None known.

Fire/Explosion Hazard:
Non combustible.
Not considered to be a significant fire risk.
Expansion or decomposition on heating may lead to violent rupture of containers.
Decomposes on heating and may produce toxic fumes of carbon monoxide (CO).
May emit acrid smoke.
Decomposition may produce toxic fumes of:
carbon dioxide (CO_2),
other pyrolysis products typical of burning organic material.

Hazchem Code
Not Applicable

Decomposition Temperature
Not Available

6. Accidental release measures

Emergency Procedures
See section 8

Clean-up Methods - Small Spillages
Slippery when spilt.

Clean up all spills immediately.
Avoid breathing vapours and contact with skin and eyes.
Control personal contact with the substance, by using protective equipment.
Contain and absorb spill with sand, earth, inert material or vermiculite.
Wipe up.
Place in a suitable, labelled container for waste disposal.

Clean-up Methods - Large Spillages
Slippery when spilt.
Minor hazard.
Clear area of personnel.
Alert Fire Brigade and tell them location and nature of hazard.
Control personal contact with the substance, by using protective equipment as required.
Prevent spillage from entering drains or water ways.
Contain spill with sand, earth or vermiculite.
Collect recoverable product into labelled containers for recycling.
Absorb remaining product with sand, earth or vermiculite and place in appropriate containers for disposal.
Wash area and prevent runoff into drains or waterways.
If contamination of drains or waterways occurs, advise emergency services.

Other Information
Personal Protective Equipment advice is contained in Section 8 of the SDS.

7. Handling and storage

Precautions for Safe Handling
Safe handling:
Limit all unnecessary personal contact.
Wear protective clothing when risk of exposure occurs.
Use in a well-ventilated area.
Avoid contact with incompatible materials.
When handling, DO NOT eat, drink or smoke.
Keep containers securely sealed when not in use.
Avoid physical damage to containers.
Always wash hands with soap and water after handling.
Work clothes should be laundered separately.
Use good occupational work practice.
Observe manufacturer's storage and handling recommendations contained within this SDS.
Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

Other information:
Store in original containers.
Keep containers securely sealed.
Store in a cool, dry, well-ventilated area.
Store away from incompatible materials and foodstuff containers.
Protect containers against physical damage and check regularly for leaks.
Observe manufacturer's storage and handling recommendations contained within this SDS.

Conditions for safe storage, including any incompatibilities
Suitable container:
Polyethylene or polypropylene container.
Packing as recommended by manufacturer.
Check all containers are clearly labelled and free from leaks.

Storage incompatibility:
Avoid storage with acids.

Other Information
X - Must not be stored together
0 - May be stored together with specific preventions
+ - May be stored together

8. Exposure controls/personal protection

Occupational exposure limit values
Control parameters:
OCCUPATIONAL EXPOSURE LIMITS (OEL):
INGREDIENT DATA:
Source: Australia Exposure Standards
Ingredient: ethylene glycol monobutyl ether
Material name: 2-Butoxyethanol
TWA: 20 ppm / 96.9 mg/m3
STEL: 242 mg/m3 / 50 ppm
Peak: Not Available
Notes: Not Available

Source: Australia Exposure Standards
Ingredient: isopropanol
Material name: Isopropyl alcohol
TWA: 400 ppm / 983 mg/m3
STEL: 1230 mg/m3 / 500 ppm
Peak: Not Available
Notes: Not Available

EMERGENCY LIMITS:
Ingredient: ethylene glycol monobutyl ether
TEEL-1: 60 ppm
TEEL-2: 120 ppm
TEEL-3: 700 ppm

Ingredient: isopropanol
TEEL-1: 400 ppm
TEEL-2: 400 ppm
TEEL-3: 12000** ppm

Ingredient: sodium carbonate
TEEL-1: 7.6 mg/m3
TEEL-2: 83 mg/m3
TEEL-3: 500 mg/m3

Ingredient: sodium metasilicate
TEEL-1: 5.9 mg/m3
TEEL-2: 65 mg/m3
TEEL-3: 390 mg/m3

Ingredient: ethylene glycol monobutyl ether
Original IDLH: 700 ppm
Revised IDLH: 700 [Unch] ppm

Ingredient: isopropanol
Original IDLH: 2,000 ppm
Revised IDLH: Not Available

Ingredient: sodium carbonate
Original IDLH: Not Available
Revised IDLH: Not Available

Ingredient: sodium metasilicate
Original IDLH: Not Available
Revised IDLH: Not Available

Ingredient: alcohols C12-15 mentholated
Original IDLH: Not Available
Revised IDLH: Not Available

Ingredient: water
Original IDLH: Not Available
Revised IDLH: Not Available

Occupational Exposure Banding
Ingredient: sodium carbonate
Occupational Exposure Band Rating: E
Occupational Exposure Band Limit: = 0.01 mg/m³

Ingredient: sodium metasilicate
Occupational Exposure Band Rating: E
Occupational Exposure Band Limit: = 0.01 mg/m³

Ingredient: alcohols C12-15 ethoxylated
Occupational Exposure Band Rating: E
Occupational Exposure Band Limit: = 0.1 ppm

Notes: Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.

Appropriate engineering controls
General exhaust is adequate under normal operating conditions.

Respiratory Protection
Type A-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required.Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor: up to 10 x ES
Half-Face Respirator: A-AUS P2
Full-Face Respirator: -
Powered Air Respirator: A-PAPR-AUS / Class 1 P2

Required Minimum Protection Factor: up to 50 x ES
Half-Face Respirator: -
Full-Face Respirator: A-AUS / Class 1 P2
Powered Air Respirator: -

Required Minimum Protection Factor: up to 100 x ES
Half-Face Respirator: -
Full-Face Respirator: A-2 P2
Powered Air Respirator: A-PAPR-2 P2 ^

^ - Full-face
A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

Eye Protection
Safety glasses with side shields; or as required,
Chemical goggles.
Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye

irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly.

Hand Protection
Wear protective gloves, e.g. PVC.

Body Protection
Overalls.
Eyewash unit.

9. Physical and chemical properties

Properties	Description	Properties	Description
Form	Liquid	**Appearance**	Clear alkaline liquid; mixes with water.
Odour	Not Available	**Decomposition Temperature**	Not Available
Boiling Point	100°C approx	**Solubility in Water**	Miscible
pH	Not Available (as supplied) Not Available (as a solution (1%))	**Vapour Pressure**	Not Available
Vapour Density (Air=1)	>1	**Evaporation Rate**	Not Available
Physical State	Liquid	**Odour Threshold**	Not Available
Viscosity	Not Available	**Volatile Component**	Not Available
Partition Coefficient: n-octanol/water	Not Available	**Surface Tension**	Not Available
Flash Point	Not Applicable	**Flammability**	Not Applicable
Auto-Ignition Temperature	Not Available	**Explosion Limit - Upper**	Not Applicable
Explosion Limit - Lower	Not Applicable	**Explosion Properties**	Not Available
Molecular Weight	Not Applicable	**Oxidising Properties**	Not Available
Initial boiling point and boiling range	100°C approx	**Relative density**	1.05 (Water = 1)
Melting/Freezing Point	Not Available		

Other Information
Taste: Not Available
Gas group: Not Available
VOC g/L: Not Available

10. Stability and reactivity

Reactivity
See section 7

Chemical Stability
Unstable in the presence of incompatible materials.
Product is considered stable.
Hazardous polymerisation will not occur.

Conditions to Avoid
See section 7

Incompatible materials
See section 7

Hazardous Decomposition Products
See section 5

Possibility of hazardous reactions
See section 7

11. Toxicological Information

Toxicology Information
Rowe Scientific Quantum Clean
TOXICITY: Not Available
IRRITATION: Not Available

ethylene glycol monobutyl ether
TOXICITY:
Dermal (rabbit) LD50: 667 mg/kg[1]
Inhalation(Rat) LC50; 2.21 mg/l4[2]
Oral(Guinea) LD50; 1414 mg/kg[1]
IRRITATION:
Eye (rabbit): 100 mg SEVERE
Eye (rabbit): 100 mg/24h-moderate
Eye: adverse effect observed (irritating)[1]
Skin (rabbit): 500 mg, open; mild
Skin: adverse effect observed (irritating)[1]
Skin: no adverse effect observed (not irritating)[1]

isopropanol
TOXICITY:
Dermal (rabbit) LD50: 21.026 mg/kg[1]
Inhalation(Mouse) LC50; 27.2 mg/l4[2]
Oral(Rabbit) LD50; 667 mg/kg[2]
IRRITATION:
Eye (rabbit): 10 mg - moderate
Eye (rabbit): 100 mg - SEVERE
Eye (rabbit): 100mg/24hr-moderate
Skin (rabbit): 500 mg - mild

sodium carbonate
TOXICITY:
dermal (mouse) LD50: 117 mg/kg[2]
Oral(Rat) LD50; 2800 mg/kg[2]
IRRITATION:
Eye (rabbit): 100 mg/24h moderate
Eye (rabbit): 100 mg/30s mild
Eye (rabbit): 50 mg SEVERE
Eye: adverse effect observed (irritating)[1]
Skin (rabbit): 500 mg/24h mild
Skin: no adverse effect observed (not irritating)[1]

sodium metasilicate
TOXICITY:
dermal (rat) LD50: >5000 mg/kg[1]
Inhalation(Rat) LC50; >2.06 mg/l4[1]
Oral(Rat) LD50; 500 mg/kg[1]
IRRITATION:
Skin (human): 250 mg/24h SEVERE
Skin (rabbit): 250 mg/24h SEVERE

alcohols C12-15 ethoxylated
TOXICITY:

Dermal (rabbit) LD50: >2000 mg/kg[2]
Inhalation(Rat) LC50; >1.6 mg/l4[1]
Oral(Rat) LD50; 1600 mg/kg[2]
IRRITATION:
Eye: no adverse effect observed (not irritating)[1]
Eye: SEVERE *
Skin: no adverse effect observed (not irritating)[1]
Skin: slight

water
TOXICITY:
Oral(Rat) LD50; >90 mg/kg[2]
IRRITATION:
Not Available

Legend: 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

ETHYLENE GLYCOL MONOBUTYL ETHER
NOTE: Changes in kidney, liver, spleen and lungs are observed in animals exposed to high concentrations of this substance by all routes. ** ASCC (NZ) SDS
For ethylene glycol monoalkyl ethers and their acetates (EGMAEs):
Typical members of this category are ethylene glycol propylene ether (EGPE), ethylene glycol butyl ether (EGBE) and ethylene glycol hexyl ether (EGHE) and their acetates.
EGMAEs are substrates for alcohol dehydrogenase isozyme ADH-3, which catalyzes the conversion of their terminal alcohols to aldehydes (which are transient metabolites). Further, rapid conversion of the aldehydes by aldehyde dehydrogenase produces alkoxyacetic acids, which are the predominant urinary metabolites of mono substituted glycol ethers.
Acute Toxicity: Oral LD50 values in rats for all category members range from 739 (EGHE) to 3089 mg/kg bw (EGPE), withvalues increasing with decreasing molecular weight. Four to six hour acute inhalation toxicity studies were conducted for thesechemicals in rats at the highest vapour concentrations practically achievable. Values range from LC0 > 85 ppm (508 mg/m3) forEGHE, LC50 > 400ppm (2620 mg/m3) for EGBEA to LC50 > 2132 ppm (9061 mg/m3) for EGPE. No lethality was observed forany of these materials under these conditions. Dermal LD50 values in rabbits range from 435 mg/kg bw (EGBE) to 1500 mg/kgbw (EGBEA). Overall these category members can be considered to be of low to moderate acute toxicity. All category members cause reversible irritation to skin and eyes, with EGBEA less irritating and EGHE more irritating than the other categorymembers. EGPE and EGBE are not sensitisers in experimental animals or humans. Signs of acute toxicity in rats, mice andrabbits are consistent with haemolysis (with the exception of EGHE) and non-specific CNS depression typical of organic solventsin general. Alkoxyacetic acid metabolites, propoxyacetic acid (PAA) and butoxyacetic acid (BAA), are responsible for the redblood cell hemolysis. Signs of toxicity in humans deliberately ingesting cleaning fluids containing 9-22% EGBE are similar tothose of rats, with the exception of haemolysis. Although decreased blood haemoglobin and/or haemoglobinuria were observedin some of the human cases, it is not clear if this was due to haemolysis or haemodilution as a result of administration of largevolumes of fluid. Red blood cells of humans are many-fold more resistant to toxicity from EGPE and EGBE in vitro than those ofrats.Repeat dose toxicity: The fact that the NOAEL for repeated dose toxicity of EGBE is less than that of EGPE is consistent withred blood cells being more sensitive to EGBE than EGPE. Blood from mice, rats, hamsters, rabbits and baboons were sensitiveto the effects of BAA in vitro and displayed similar responses, which included erythrocyte swelling (increased haematocrit andmean corpuscular hemoglobin), followed by hemolysis. Blood from humans, pigs, dogs, cats, and guinea pigs was less sensitiveto haemolysis by BAA in vitro.Mutagenicity: In the absence and presence of metabolic activation, EGBE tested negative for mutagenicity in Ames testsconducted in S. typhimurium strains TA97, TA98, TA100, TA1535 and TA1537 and EGHE tested negative in strains TA98, TA100,TA1535, TA1537 and TA1538. In vitro cytogenicity and sister chromatid exchange assays with EGBE and EGHE in Chinese Hamster Ovary Cells with and without metabolic activation and in vivo micronucleus tests with EGBE in rats and mice werenegative, indicating that these glycol ethers are not genotoxic.Carcinogenicity: In a 2-year inhalation chronic toxicity and carcinogenicity study with EGBE in rats and mice a significantincrease in the incidence of liver haemangiosarcomas was seen in male mice and forestomach tumours in female mice. It wasdecided that based on the mode of action data available, there was no significant hazard for human carcinogenicityReproductive and developmental toxicity. The results of reproductive and developmental toxicity studies indicate that theglycol ethers in this category are not selectively toxic to the reproductive system or developing fetus, developmental toxicity issecondary to maternal toxicity. The repeated dose toxicity studies in which reproductive organs were examined indicate that themembers of this category are not associated with toxicity to reproductive organs (including the testes).Results of the developmental toxicity studies conducted via inhalation exposures during gestation periods on EGPE (rabbits -125,250, 500 ppm or 531, 1062, or 2125 mg/m3 and rats - 100, 200, 300, 400 ppm or 425, 850, 1275, or 1700 mg/m3), EGBE (ratand rabbit - 25, 50, 100, 200 ppm or 121, 241, 483, or 966 mg/m3), and EGHE (rat and rabbit - 20.8, 41.4, 79.2 ppm or 124, 248,or 474 mg/m3) indicate that the members of the category are not teratogenic.The NOAELs for developmental toxicity are greater than 500 ppm or 2125 mg/m3 (rabbit-EGPE), 100 ppm or 425 mg/m3(rat-EGPE), 50 ppm or 241

mg/m3 (rat EGBE) and 100 ppm or 483 mg/m3 (rabbit EGBE) and greater than 79.2 ppm or 474mg/m3 (rat and rabbit-EGHE).Animal testing showed that exposure to ethylene glycol monobutyl ether resulted in toxicity to both the mother and the embryo.Reproductive effects were thought to be less than that of other monoalkyl ethers of ethylene glycol.Chronic exposure may cause anaemia, with enlargement and fragility of red blood cells. It is thought that in animalsbutoxyethanol may cause generalized clotting and bone infarction. In animals, 2-butoxyethanol also increased the rate of somecancers, including liver cancer.For ethylene glycol:Ethylene glycol is quickly and extensively absorbed throughout the gastrointestinal tract. Limited information suggests that it isalso absorbed through the airways; absorption through skin is apparently slow. Following absorption, it is distributed throughoutthe body. In humans, it is initially metabolized by alcohol dehydrogenase to form glycoaldehyde, which is rapidly converted toglycolic acid and glyoxal. These breakdown products are oxidized to glyoxylate, which may be further metabolized to formic acid,oxalic acid, and glycine. Breakdown of both glycine and formic acid can generate carbon dioxide, which is one of the majorelimination products of ethylene glycol. In addition to exhaled carbon dioxide, ethylene glycol is eliminated in the urine as boththe parent compound and glycolic acid. Elimination is rapid and occurs within a few hours.Respiratory effects: Respiratory system involvement occurs 12-24 hours after swallowing sufficient amounts of ethylene glycol.Symptoms include hyperventilation, shallow rapid breathing, and generalized swelling of the lungs with calcium oxalate depositsoccasionally appearing in the lungs. Respiratory system involvement appears to be dose-dependent and occurs at the same timeas cardiovascular changes. Later, there may be other changes compatible with adult respiratory distress syndrome (ARDS).Swelling of the lung can be a result of heart failure, ARDS, or aspiration of stomach contents. Symptoms related to acidosis suchas fast or excessive breathing are frequently observed; however, major symptoms such as swelling of the lung and inflammationof the bronchi and lungs are relatively rare, and are usually seen only in extreme poisoning.Cardiovascular effects: Cardiovascular system involvement in humans occurs at the same time as respiratory systeminvolvement, during the second phase of ethylene glycol poisoning by swallowing, which is 12-24 hours after acute exposure.

The symptoms of poisoning involving the heart include increased heart rate, heart enlargement and ventricular gallop. There may also be high or low blood pressure, which may progress to cardiogenic shock. In lethal cases, inflammation of the heart muscle has been observed at autopsy. Cardiovascular involvement appears to be rare and usually seen after swallowing higher doses of ethylene glycol. In summary, acute exposure to high levels of ethylene glycol can cause serious cardiovascular effects in humans. The effects of a long-term, low-dose exposure are unknown.

Gastrointestinal effects: Common early acute effects of swallowing ethylene glycol include nausea, vomiting with or without blood, heartburn and abdominal cramping and pain. One patient showed intermittent diarrhea and pain, and after surgery,deposition of oxalate crystals was shown to have occurred.

Musculoskeletal effects: Reported musculoskeletal effects in cases of acute ethylene glycol poisoning include diffuse muscle tenderness and pain, associated with high levels of creatinine in the blood, and jerks and contractions associated with low calcium.

Liver effects: Autopsies carried out on people who died following acute ethylene glycol poisoning showed deposition of calcium oxalate in the liver as well as hydropic and fatty degeneration and cell death (necrosis) of the liver.

Kidney effects: Adverse kidney effects are seen during the third stage of ethylene glycol poisoning, 2-3 days after acute exposure. Calcium oxalate crystals are deposited in the tubules and are seen in the urine. There may also be degeneration and death of tubule cells, and inflammation of the tubule interstitium. If untreated, the degree of kidney damage progresses and leads to blood and protein in the urine, decreased kidney function, reduction in urine output and ultimately, kidney failure. With adequate supportive therapy, kidney function can return to normal or near normal.

Metabolic effects: Metabolic changes can occur within 12 hours of exposure to ethylene glycol. There may be metabolic acidosis,caused by accumulation of glycolic acid in the blood and therefore a reduction in blood pH. The anion gap is increased, due to increased unmeasured anions (mainly glycolate).

Effects on the nervous system: Adverse reactions involving the nervous system are among the first symptoms to appear in humans after ethylene glycol is swallowed. These early effects are also the only symptoms caused by unmetabolised ethylene glycol. Together with metabolic effects (see above), they occur from 0.5-12 hours after exposure and are considered to be part of the first stage in ethylene glycol poisoning. Inco-ordination, slurred speech, confusion and sleepiness are common in the early stages, as are irritation, restlessness and disorientation. Later, there may be effects on cranial nerves (which may be reversible over many months). Swelling of the brain (cerebrum) and crystal deposits of calcium oxalate in the walls of the small blood vessels of the brain were found at autopsy in people who died after acute ethylene glycol poisoning.

Reproductive effects: Animal testing showed that ethylene glycol may affect fertility, survival of fetuses and the male reproductive organs.

Effects on development: Animal studies indicate that birth defects may occur after exposure in pregnancy; there may also be reduction in foetal weight.

Cancer: No studies are known regarding cancer effects in humans or animal, after skin exposure to ethylene glycol.

Genetic toxicity: No human studies available, but animal testing results are consistently negative.

ISOPROPANOL

Isopropanol is irritating to the eyes, nose and throat but generally not to the skin. Prolonged high dose exposure may also produce depression of the central nervous system and drowsiness. Few have reported skin irritation. It can be absorbed from the skin or when inhaled. Intentional swallowing is common particularly among alcoholics or suicide victims and also leads to fainting,breathing difficulty, nausea, vomiting and headache. In the absence of unconsciousness, recovery usually occurred. Repeated doses may

damage the kidneys. A decrease in the frequency of mating has been found in among animals, and newborns have been found to have a greater incidence of low birth weight. Tumours of the testes have been observed in the male rat.
The substance is classified by IARC as Group 3:
NOT classifiable as to its carcinogenicity to humans.Evidence of carcinogenicity may be inadequate or limited in animal testing.

SODIUM CARBONATE
For sodium carbonate:
Sodium carbonate has little potential for skin irritation, but is irritating to the eyes. Due to its alkaline properties, irritation of the airways is also possible.
There is no data available for animal studies regarding the repeated dose toxicity of sodium carbonate by any route. There is no evidence that sodium carbonate causes whole-body effects under normal handling and use. Sodium carbonate does not reach the foetus or the reproductive organs, which shows that there is no risk for developmental or reproductive toxicity. Sodium carbonate has not been shown to cause genetic toxicity or mutations.

SODIUM METASILICATE
The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

ALCOHOLS C12-15 ETHOXYLATED
Polyethers (such as ethoxylated surfactants and polyethylene glycols) are highly susceptible to being oxidized in the air. They then form complex mixtures of oxidation products.
Animal testing reveals that whole the pure, non-oxidised surfactant is non-sensitizing, many of the oxidation products are sensitisers. The oxidization products also cause irritation.
Humans have regular contact with alcohol ethoxylates through a variety of industrial and consumer products such as soaps, detergents and other cleaning products. Exposure to these chemicals can occur through swallowing, inhalation, or contact with the skin or eyes. Studies of acute toxicity show that relatively high volumes would have to occur to produce any toxic response.
No death due to poisoning with alcohol ethoxylates has ever been reported. Studies show that alcohol ethoxylates have low toxicity through swallowing and skin contact.
Animal studies show these chemicals may produce gastrointestinal irritation, stomach ulcers, hair standing up, diarrhea and lethargy. Slight to severe irritation occurred when undiluted alcohol ethyoxylates were applied to the skin and eyes of animals.
These chemicals show no indication of genetic toxicity or potential to cause mutations and cancers. Toxicity is thought to be substantially lower than that of nonylphenol ethoxylates.
Some of the oxidation products of this group of substances may have sensitizing properties.
As they cause less irritation, nonionic surfactants are often preferred to ionic surfactants in topical products. However, their tendency to auto-oxidise also increases their irritation. Due to their irritating effect it is difficult to diagnose allergic contact dermatitis (ACD) by patch testing.
Both laboratory and animal testing has shown that there is no evidence for alcohol ethoxylates (AEs) causing genetic damage,mutations or cancer. No adverse reproductive or developmental effects were observed.
Tri-ethylene glycol ethers undergo enzymatic oxidation to toxic alkoxy acids. They may irritate the skin and the eyes. At high oral doses, they may cause depressed reflexes, flaccid muscle tone, breathing difficulty and coma. Death may result in experimental animal. However, repeated exposure may cause dose dependent damage to the kidneys as well as reproductive and developmental defects.
for Tergitol 25-L-9: Neodol 25-9 Neodol 25-7 *Shell Canada ** Huntsman (for Teric 12A9)

WATER
No significant acute toxicological data identified in literature search.

ETHYLENE GLYCOL MONOBUTYL ETHER & ALCOHOLS C12-15 ETHOXYLATED
The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

ETHYLENE GLYCOL MONOBUTYL ETHER & ISOPROPANOL & SODIUM CARBONATE & SODIUM META SILICATE
The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.

ISOPROPANOL & SODIUM CARBONATE & SODIUM METASILICATE
Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the

irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. On the other hand, industrial bronchitis is a disorder that occurs as a result of exposure due to high concentrations of irritating substance (often particles) and is completely reversible after exposure ceases.The disorder is characterized by difficulty breathing, cough and mucus production.

Acute Toxicity: Data either not available or does not fill the criteria for classification

Ingestion
Accidental ingestion of the material may be damaging to the health of the individual.
Ingestion may result in nausea, abdominal irritation, pain and vomiting.

Inhalation
Acute effects from inhalation of high vapour concentrations may be chest and nasal irritation with coughing, sneezing, headache and even nausea.

Skin
The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.

Eye
The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

Skin corrosion/irritation
Data either not available or does not fill the criteria for classification

Serious eye damage/irritation
Data available to make classification

Mutagenicity
Data either not available or does not fill the criteria for classification

Respiratory sensitisation
Data either not available or does not fill the criteria for classification

Skin Sensitisation
Data either not available or does not fill the criteria for classification

Carcinogenicity
Data either not available or does not fill the criteria for classification

Reproductive Toxicity
Data either not available or does not fill the criteria for classification

STOT-single exposure
Data either not available or does not fill the criteria for classification

STOT-repeated exposure
Data either not available or does not fill the criteria for classification

Aspiration Hazard
Data either not available or does not fill the criteria for classification

Chronic Effects
Principal routes of exposure are by accidental skin and eye contact and by inhalation of vapours especially at higher temperatures.
As with any chemical product, contact with unprotected bare skin; inhalation of vapour, mist or dust in work place atmosphere; or ingestion in any form, should be avoided by observing good occupational work practice.

12. Ecological information

Ecotoxicity
Rowe Scientific Quantum Clean
Endpoint: Not Available
Test Duration (hr): Not Available
Species: Not Available
Value: Not Available
Source: Not Available

Ingredient: ethylene glycol monobutyl ether
Endpoint: EC50
Test Duration (hr): 48
Species: Crustacea
Value: 164mg/L
Source: 2

Ingredient: ethylene glycol monobutyl ether
Endpoint: LC50
Test Duration (hr): 96
Species: Fish
Value: 1250mg/l
Source: 2

Ingredient: ethylene glycol monobutyl ether
Endpoint: EC50
Test Duration (hr): 72
Species: Algae or other aquatic plants
Value: 623mg/l
Source: 2

Ingredient: ethylene glycol monobutyl ether
Endpoint: EC10(ECx)
Test Duration (hr): 48
Species: Crustacea
Value: 7.2mg/l
Source: 2

Ingredient: ethylene glycol monobutyl ether
Endpoint: EC50
Test Duration (hr): 96
Species: Algae or other aquatic plants
Value: 720mg/L
Source: 2

Ingredient: isopropanol
Endpoint: LC50
Test Duration (hr): 96
Species: Fish
Value: 4200mg/l
Source: 4

Ingredient: isopropanol
Endpoint: EC50(ECx)
Test Duration (hr): 24
Species: Algae or other aquatic plants
Value: 0.011mg/L
Source: 4

Ingredient: isopropanol
Endpoint: EC50
Test Duration (hr): 48
Species: Crustacea
Value: 7550mg/l
Source: 4

Ingredient: isopropanol
Endpoint: EC50
Test Duration (hr): 72
Species: Algae or other aquatic plants
Value: >1000mg/l
Source: 1

Ingredient: isopropanol
Endpoint: EC50
Test Duration (hr): 96
Species: Algae or other aquatic plants
Value: >1000mg/l
Source: 1

Ingredient: sodium carbonate
Endpoint: NOEC(ECx)
Test Duration (hr): Not Available
Species: Algae or other aquatic plants
Value: 110mg/l
Source: 2

Ingredient: sodium carbonate
Endpoint: EC50
Test Duration (hr): 48
Species: Crustacea
Value: 156.6298.9mg/l
Source: 4

Ingredient: sodium carbonate
Endpoint: LC50
Test Duration (hr): 96
Species: Fish
Value: 3.208mg/l
Source: 4

Ingredient: sodium metasilicate
Endpoint: EC50
Test Duration (hr): 48
Species: Crustacea
Value: 0.280.57mg/l
Source: 4

Ingredient: sodium metasilicate
Endpoint: LC50
Test Duration (hr): 96
Species: Fish
Value: 260310mg/l
Source: 2

Ingredient: sodium metasilicate
Endpoint: EC50
Test Duration (hr): 72
Species: Algae or other aquatic plants

Value: 207mg/l
Source: 2

Ingredient: sodium metasilicate
Endpoint: EC50(ECx)
Test Duration (hr): 48
Species: Crustacea
Value: 0.280.57mg/l
Source: 4

Ingredient: alcohols C12-15 ethoxylated
Endpoint: LC50
Test Duration (hr): 96
Species: Fish
Value: 0.59mg/L
Source: 2

Ingredient: alcohols C12-15 ethoxylated
Endpoint: NOEC
Test Duration (hr): 48
Species: Crustacea
Value: 0.056mg/L
Source: 2

Ingredient: alcohols C12-15 ethoxylated
Endpoint: EC50
Test Duration (hr): 48
Species: Crustacea
Value: 0.13mg/L
Source: 2

Ingredient: alcohols C12-15 ethoxylated
Endpoint: EC50
Test Duration (hr): 72
Species: Algae or other aquatic plants
Value: 0.3mg/ll
Source: 2

Ingredient: alcohols C12-15 ethoxylated
Endpoint: EC50
Test Duration (hr): 96
Species: Algae or other aquatic plants
Value: 0.7mg/L
Source: 4

Ingredient: water
Endpoint: Not Available
Test Duration (hr): Not Available
Species: Not Available
Value: Not Available
Source: Not Available

Legend:
Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

DO NOT discharge into sewer or waterways.

Persistence and degradability
Ingredient: ethylene glycol monobutyl ether

Persistence: Water/Soil: LOW (Half-life = 56 days)
Persistence: Air: LOW (Half-life = 1.37 days)

Ingredient: isopropanol
Persistence: Water/Soil: LOW (Half-life = 14 days)
Persistence: Air: LOW (Half-life = 3 days)

Ingredient: sodium carbonate
Persistence: Water/Soil: LOW
Persistence: Air: LOW

Ingredient: water
Persistence: Water/Soil: LOW
Persistence: Air: LOW

Mobility
Mobility in soil:
Ingredient: ethylene glycol monobutyl ether
Mobility: HIGH (KOC = 1)

Ingredient: isopropanol
Mobility: HIGH (KOC = 1.06)

Ingredient: sodium carbonate
Mobility: HIGH (KOC = 1)

Ingredient: water
Mobility: LOW (KOC = 14.3)

Bioaccumulative Potential
Ingredient: ethylene glycol monobutyl ether
Bioaccumulation: LOW (BCF = 2.51)

Ingredient: isopropanol
Bioaccumulation: LOW (LogKOW = 0.05)

Ingredient: sodium carbonate
Bioaccumulation: LOW (LogKOW = -0.4605)

Ingredient: water
Bioaccumulation: LOW (LogKOW = -1.38)

13. Disposal considerations

Waste Disposal
Product / Packaging disposal:
Recycle wherever possible.
Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.
Dispose of by: burial in a land-fill specifically licenced to accept chemical and / or pharmaceutical wastes or incineration in a licenced apparatus (after admixture with suitable combustible material).
Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.
Containers may still present a chemical hazard/ danger when empty.
Return to supplier for reuse/ recycling if possible.
Otherwise:
If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.
Where possible retain label warnings and SDS and observe all notices pertaining to the product.

14. Transport information

U.N. Number
None Allocated

UN proper shipping name
None Allocated

Transport hazard class(es)
None Allocated

Hazchem Code
Not Applicable

UN Number (Air Transport, ICAO)
NCAD

IATA/ICAO Proper Shipping Name
Not dangerous for conveyance under IATA code

IMDG UN No
NCAD

IMDG Proper Shipping Name
Not dangerous for conveyance under IMO/IMDG code

Other Information
Labels Required:
Marine Pollutant: NO
HAZCHEM: Not Applicable

Land transport (ADG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code
Product name: ethylene glycol monobutyl ether
Group: Not Available

Product name: isopropanol
Group: Not Available

Product name: sodium carbonate
Group: Not Available

Product name: sodium metasilicate
Group: Not Available

Product name: alcohols C12-15 ethoxylated
Group: Not Available

Product name: water
Group: Not Available

Transport in bulk in accordance with the ICG Code:
Product name: ethylene glycol monobutyl ether
Group: Not Available

Product name: isopropanol
Group: Not Available

Product name: sodium carbonate
Group: Not Available

Product name: sodium metasilicate
Group: Not Available

Product name: alcohols C12-15 ethoxylated
Group: Not Available

Product name: water
Group: Not Available

15. Regulatory information

Regulatory information
Safety, health and environmental regulations / legislation specific for the substance or mixture:
ethylene glycol monobutyl ether is found on the following regulatory lists
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6
Australian Inventory of Industrial Chemicals (AIIC)
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

isopropanol is found on the following regulatory lists
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australian Inventory of Industrial Chemicals (AIIC)
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

sodium carbonate is found on the following regulatory lists
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 10 / Appendix C
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6
Australian Inventory of Industrial Chemicals (AIIC)

sodium metasilicate is found on the following regulatory lists
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 10 / Appendix C
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6
Australian Inventory of Industrial Chemicals (AIIC)

alcohols C12-15 ethoxylated is found on the following regulatory lists
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australian Inventory of Industrial Chemicals (AIIC)

water is found on the following regulatory lists
Australian Inventory of Industrial Chemicals (AIIC)

National Inventory Status:
National Inventory: Australia - AIIC / Australia Non-Industrial Use
Status: Yes

National Inventory: Canada - DSL
Status: Yes

National Inventory: Canada - NDSL
Status: No (ethylene glycol monobutyl ether; isopropanol; sodium carbonate; sodium metasilicate; alcohols C12-15 ethoxylated; water)

National Inventory: China - IECSC

Status: Yes

National Inventory: Europe - EINEC / ELINCS /NLP
Status: Yes

National Inventory: Japan - ENCS
Status: No (alcohols C12-15 ethoxylated)

National Inventory: Korea - KECI
Status: Yes

National Inventory: New Zealand - NZIoC
Status: Yes

National Inventory: Philippines - PICCS
Status: Yes

National Inventory: USA - TSCA
Status: Yes

National Inventory: Taiwan - TCSI
Status: Yes

National Inventory: Mexico - INSQ
Status: Yes

National Inventory: Vietnam - NCI
Status: Yes

National Inventory: Russia - ARIPS
Status: Yes

Legend:
Yes = All CAS declared ingredients are on the inventory
No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)

Poisons Schedule
S5

16. Other Information

Empirical Formula & Structural Formula
Not Applicable

User Codes

User Title Label	User Codes
Wis Numbers	02995795

Other Information
Version No: 8.1.1.1
Safety Data Sheet according to WHS and ADG requirements
S.GHS.AUS.EN

SDS Version Summary:
Version: 7.1.1.1
Issue Date: 03/09/2020
Sections Updated: Classification change due to full database hazard calculation/update.

Version: 8.1.1.1
Issue Date: 11/03/2021
Sections Updated: Classification, Name

Ingredients with multiple cas numbers:
Name: sodium carbonate
CAS No: 497-19-8, 7542-12-3, 1314087-39-2, 1332-57-6, 1977561-09-3

Name: sodium metasilicate
CAS No: 1344-09-8, 106985-35-7, 1095113-57-7, 11105-00-3, 1197343-23-9, 1202389-71-6, 1202389-76-1, 1613729-78-4, 37299-97-1, 54249-86-4, 65727-85-7, 8031-41-2, 84992-49-4

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risk sin the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Definitions and abbreviations:
PC-TWA: Permissible Concentration-Time Weighted Average
PC-STEL: Permissible Concentration-Short Term Exposure Limit
IARC: International Agency for Research on Cancer
ACGIH: American Conference of Governmental Industrial Hygienists
STEL: Short Term Exposure Limit
TEEL: Temporary Emergency Exposure Limit
IDLH: Immediately Dangerous to Life or Health Concentrations
OSF: Odour Safety Factor
NOAEL: No Observed Adverse Effect Level
LOAEL: Lowest Observed Adverse Effect Level
TLV: Threshold Limit Value
LOD: Limit Of Detection
OTV: Odour Threshold Value
BCF: BioConcentration Factors
BEI: Biological Exposure Index

This SDS has been transcribed into Infosafe GHS format from an original, issued by the manufacturer on the date shown.
Any disclaimer by the manufacturer may not be included in the transcription.

END OF SDS